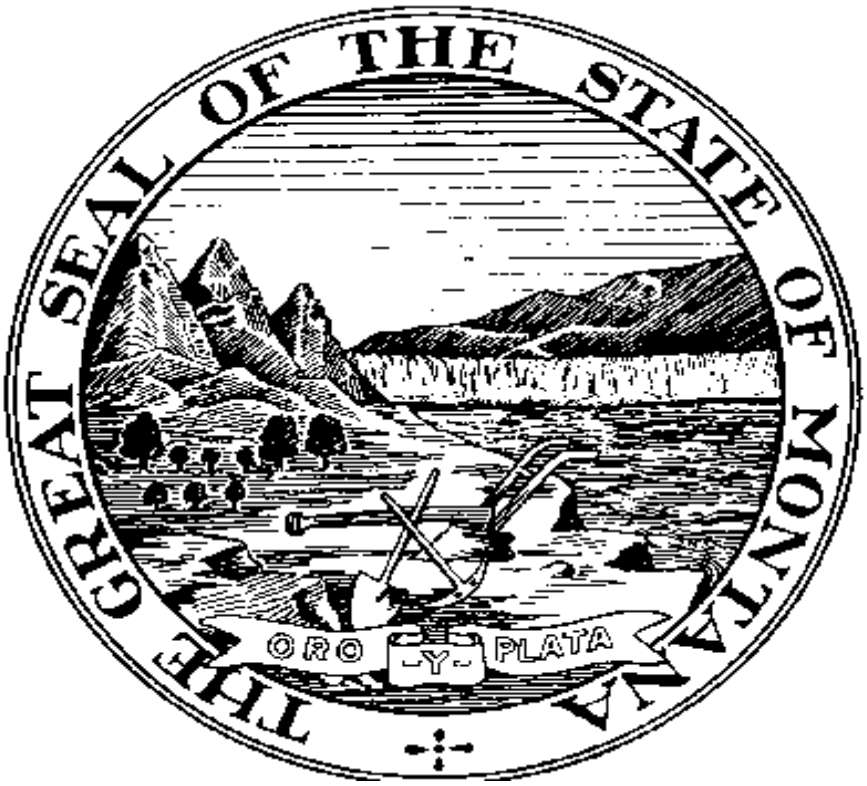
Excavation and Trenching Pre-Entry Checklist

Occupational Safety and Health Bureau



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Prepared for Montana Employers
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EXCAVATIONS AND TRENCHING
PRE-ENTRY CHECKLIST

Prior to worker entry to an excavation certain factors should routinely be considered:

- IS THERE A COMPETENT PERSON ON SITE ?

- A competent person is defined as one who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

YES / NO

1. Surface Encumbrances:

   Have you checked for structures, trees, machines and equipment, or excavated spoils located near the excavation which might exert force on the excavation walls?

   Have you checked for any evidence of cracking or subsidence along the excavation surface or within the excavation?

2. Underground Installations:

   Are all utilities, such as water, sewer, electrical, and telephone, located within the excavation properly supported, removed, or otherwise protected?

3. Access and Egress:

   Are structural ramps that are used solely by employees for access and egress designed by a competent person?

   Are ramps secured against displacement?

   Are ramps sound, trip hazard free, and slip resistant?

   Are trenches provided with ramps or ladders so that they are within a minimum of 25 feet of lateral travel?

YES / NO

4. Traffic Safety:

   Are signs and barricades placed appropriately and in sufficient quantity?

   Are personnel, where exposed to traffic, wearing appropriate warning vests or reflective high visibility clothing?

   Are personnel prohibited from working under lifting or digging equipment, and required to stand away from vehicles being loaded or unloaded?

   Where mobile equipment is operated adjacent to an excavation, or approaches an excavation; does the operator have a clear view of the edge?

   Where an operator's view of the edge of an excavation is obstructed, is there a warning system, such as hand signals, mechanical signals, or stop logs in place? (If possible, the grade should be away from the excavation.)

5. Hazardous Atmospheres:

   Where hazardous conditions could reasonably be expected had the atmosphere been tested prior to entry?

   Where the atmosphere contains less than 19.5% oxygen, has appropriate respiratory protection and/or ventilation been provided?

   Where flammable atmospheres exist is there ventilation provided that is sufficient to reduce the flammable concentration to less than 20% of the lower flammable limit of the gas?

   Is frequent testing of the atmosphere conducted to ensure that the atmosphere remains safe?

6. Emergency Rescue Equipment:

   Is emergency rescue equipment, such as breathing apparatus, safety harness and lanyard, or a basket stretcher, readily available where hazardous atmospheric conditions exist or may be expected to develop?

   Are employees entering deep and confined excavations equipped with harness, an attached lifeline, and attended at all times while in the excavation?

YES / NO

7. Water Hazard Protection:

Are adequate precautions taken to protect employees in excavations where water has accumulated or is accumulating (i.e., support or shield systems, water removal systems, or safety harness and lifelines.)?

Are water removal equipment and operations monitored by a competent person?

Are natural runoff and surface water adequately diverted to prevent entry to the excavation?

Are excavations subjected to runoff from heavy rains inspected by a competent person prior to entry?

8. Adjacent Structures:

Are adjoining buildings, walls or other structures adequately stabilized with approved shoring, bracing, and underpinning to assure protection of employees?

Where the excavation is below the level of the base or footing of a foundation or retaining wall, have the excavation and support systems in use been determined appropriate by a registered professional engineer?

Are sidewalks, pavement and other such structures adequately supported to prevent collapse?

9. Loose Rock and Soils:

Are adequate measures taken to protect employees from loose and falling rock, soil, or other debris (i.e., scaling, protective barricades, etc.)?

Are excavated spoils and other materials maintained at least 24 inches away from the edge of the excavation, and are retaining devices used where the 24-inch clear area is not possible?

10. Protective Systems:

Has a competent person tested the soils to determine the proper classification as a basis for determining the required type of protective systems necessary for the excavation?

YES / NO

Do protective systems have the capacity to resist without failure, all loads

intended or expected to be applied to them?

Are the designs of sloping and benching systems in accordance with requirements of 29 CFR 1926.652?

Are the designs for timber shoring in accordance with requirements of 29 CFR 1926.652 appendices A and C?

Are the designs for aluminum shoring in accordance with the requirements of 29 CFR 1926.652 appendix D?

Are the designs of support systems, shield systems, or other protective systems in accordance with specifications, recommendations, and limitations of the manufacturer?

Where there is deviation from specifications, recommendations and limitations has written manufacturer approval been obtained, with a copy on site?

Where systems design is from other tabulated data or by a registered professional engineer, are such date and copies of the design maintained at the job site?

Are materials and equipment used for protective systems free from defects that might impair their function?

Are manufactured materials and equipment used for protective systems used and maintained in accordance with manufacturer recommendations?

Are materials and equipment used for protective systems that have been damaged, inspected by a competent person to evaluate suitability for use?

Are repaired materials and equipment evaluated and approved for use by a registered professional engineer before being returned to service?

Are members of support systems securely connected to prevent falling, sliding, kickouts, or other predictable failure?

Are support systems installed and removed in a manner that protects employees from cave-ins, structural collapses, or from being struck by members of the support system?

YES / NO

Does system removal begin at, and progress from the bottom of the excavation?

Is there excavation no greater than 2 feet below the bottom of the members of the support system where the system provides protection for the full depth of the trench and there is no potential for loss of soil from behind or below the bottom of the system?
Are employees prohibited from working on the faces of sloped or benched excavations above other employees at lower levels unless there is adequate protection from falling, rolling, or sliding material or equipment?

Are employees protected from the hazard of cave-ins when entering or exiting areas protected by shields?

Are employees prohibited from being in shields during installation, removal, or vertical movement of them?

- Where the competent person finds evidence of a situation that could result in a possible cave-in, where there are indications of failure of protective systems, where there are hazardous atmospheres, or where there are other hazardous conditions, are exposed employees removed from the hazardous area until all necessary precautions are taken to ensure their safety?